## **CLAIMS**

## We claim:

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- 1. A recombinant nucleic acid comprising a nucleotide sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.
- 5 2. A host cell comprising the recombinant nucleic acid of claim 1.
  - 3. An expression vector comprising the recombinant nucleic acid according to claim 2.
  - A host cell comprising the expression vector of claim 3.
  - 5. A recombinant protein comprising an amino acid sequence encoded by a nucleic acid sequence comprising a sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.
  - 6. A method of screening drug candidates comprising:
  - a) providing a cell that expresses a carcinoma associated (CA) gene comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343 or fragment thereof;
    - b) adding a drug candidate to said cell; and
    - c) determining the effect of said drug candidate on the expression of said CA gene.
  - 7. A method according to claim 6 wherein said determining comprises comparing the level of expression in the absence of said drug candidate to the level of expression in the presence of said drug candidate.
- 8. A method of screening for a bioactive agent capable of binding to an CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343, said method comprising:
  - a) combining said CAP and a candidate bioactive agent; and
  - b) determining the binding of said candidate agent to said CAP.
- 9. A method for screening for a bioactive agent capable of modulating the activity of an CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343, said method comprising:
  - a) combining said CAP and a candidate bioactive agent; and
  - b) determining the effect of said candidate agent on the bioactivity of said CAP.
  - 10. A method of evaluating the effect of a candidate carcinoma drug comprising:
    - a) administering said drug to a patient;
    - b) removing a cell sample from said patient; and
    - c) determining alterations in the expression or activation of a gene comprising a nucleic acid

sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.

11. A method of diagnosing carcinoma comprising:

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- a) determining the expression of one or more genes comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343, in a first tissue type of a first individual; and
- b) comparing said expression of said gene(s) from a second normal tissue type from said first individual or a second unaffected individual; wherein a difference in said expression indicates that the first individual has carcinoma.
- 12. A method for inhibiting the activity of a CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343, said method comprising binding an inhibitor to said CAP.
- 13. A method of treating carcinomas comprising administering to a patient an inhibitor of an CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.
- 14. A method of neutralizing the effect of an CA protein (CAP), wherein said CAP is encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343, comprising contacting an agent specific for said CAP protein with said CAP protein in an amount sufficient to effect neutralization.
  - 15. A polypeptide which specifically binds to a protein encoded by a nucleic acid comprising a nucleic acid selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.
  - 16. A polypeptide according to claim 15 comprising an antibody which specifically binds to a protein encoded by a nucleic acid comprising a nucleic acid sequence selected from the group consisting of the sequences outlined in Table 1 06-001 to 06-343.
  - 17. A biochip comprising one or more nucleic acid segments selected from the group consisting of a nucleic acid of the sequences outlined in Table 1 06-001 to 06-343 or fragments thereof.
  - 18. A method of diagnosing carcinoma or a propensity to carcinoma by sequencing at least one CA gene of an individual.
  - 19. A method of determining CA gene copy number comprising adding an CA gene probe to a sample of genomic DNA from an individual under conditions suitable for hybridization.